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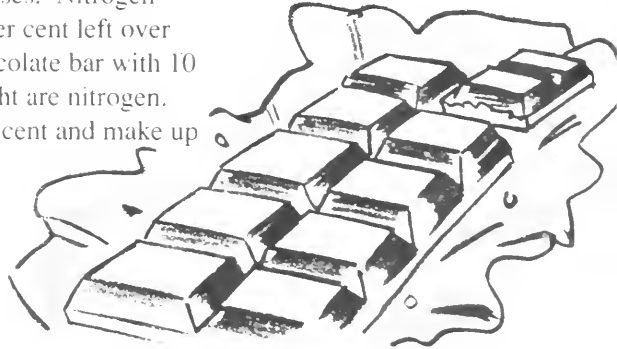
"Air! What would we do without it? We may be able to go without water for a few days, but we can only last a few minutes without air. Pollution and weather create changes in air. When air changes, our environment changes and all living creatures are affected."

Here are some interesting facts about air...



ATMOSPHERE AND AIR

The oxygen we need to breathe only makes up a small part of the air. The rest is nitrogen and other gases. Nitrogen makes up the other 78 per cent. The one per cent left over contains other gases. Think of air as a chocolate bar with 10 squares. Only two squares are oxygen, eight are nitrogen. The crumbs left in the wrapper are one per cent and make up all the other gases.



If there was no air, we'd be bombarded by meteor showers. As the meteor falls, the air rubs against it creating such heat that by the time it reaches our air, it's burned into small pieces.



Atmosphere, or air surrounding the earth, acts as a natural heating and cooling system. Without this natural cooling system, it would be like spending our days in a broiling oven. Without the natural heating, it would be like spending our nights in a freezer.



WEATHER AND AIR

Warm air can hold more water than cold air. Rain occurs when tiny drops of water in warm air gather until they become too heavy and fall to the ground.

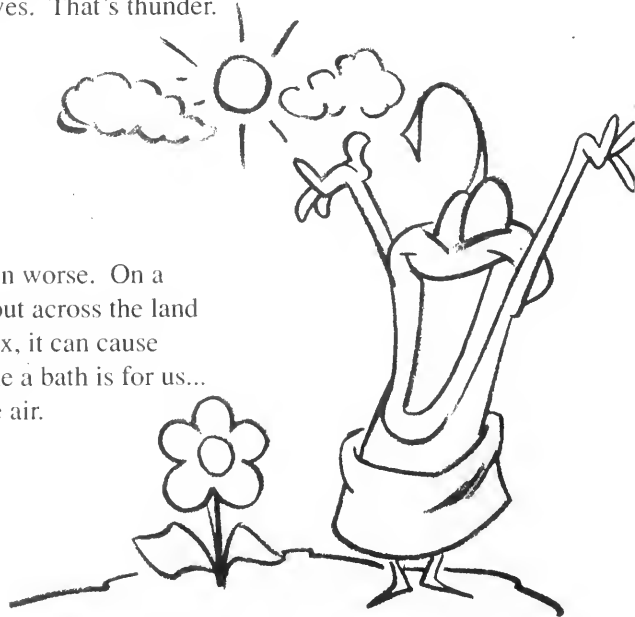
When we're in cold air our hair muscles contract. Each hair muscle is pulled up giving our skin that "goose-bump" look. This creates tiny pockets of air, which help warm us up. Birds use the same kind of muscles to fluff up their feathers in cold weather. Their muscles work a lot better than ours do.



Thunder is actually caused by lightning. A spark of lightning streaks out in the sky and heats the air around it. The air is so hot it expands quickly. When the hot air particles fly out, they bang into surrounding cool air and make huge sound waves. That's thunder.



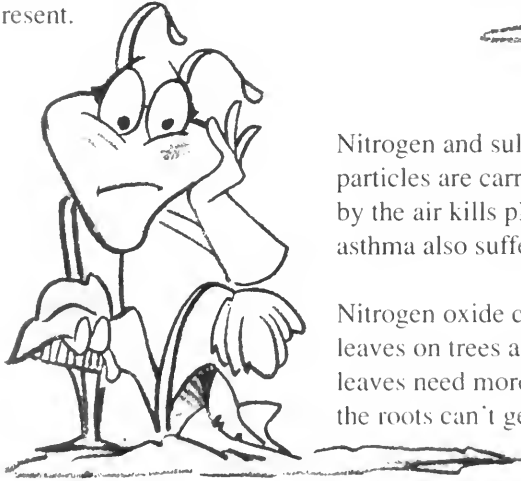
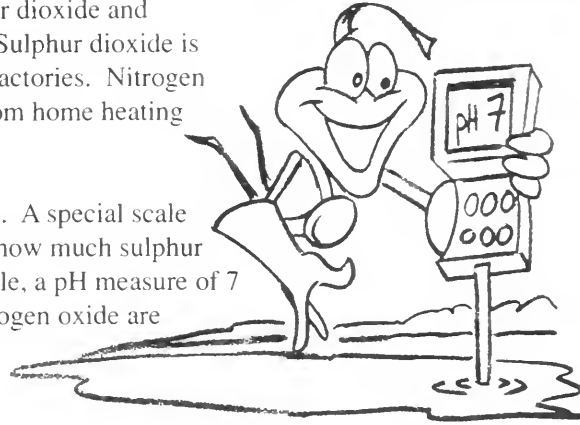
Certain kinds of weather make air pollution worse. On a windy day, dirty air is moved and spread out across the land and water. When sunlight and dirty air mix, it can cause smog. But clean rainfall is for dirty air like a bath is for us... afterwards we're clean again, and so is the air.



POLLUTION AND AIR

Acid rain is formed when two gases, sulphur dioxide and nitrogen oxide, mix with moisture and air. Sulphur dioxide is created by power plants and metal smelter factories. Nitrogen oxide comes from vehicle emissions and from home heating systems that use natural gas.

The amount of acid in rain can be measured. A special scale monitors the level of acid in water to show how much sulphur and nitrogen oxides are present. For example, a pH measure of 7 means clean lake water: no sulphur and nitrogen oxide are present.



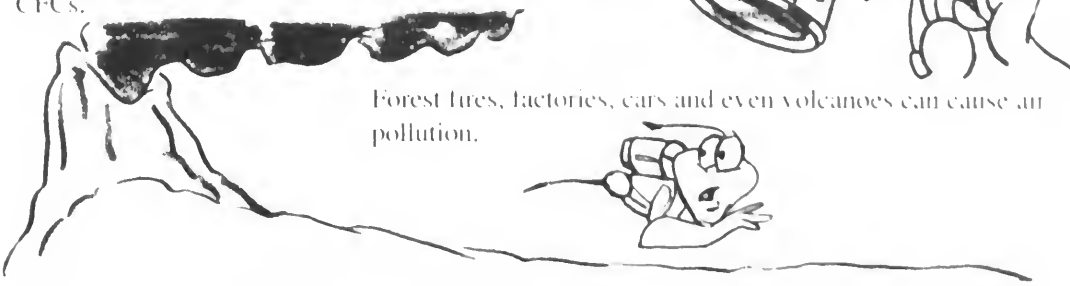
Nitrogen and sulphur oxide don't just come in rain. Dust particles are carried by wind. This acid "dust" that is carried by the air kills plant life, lakes and forests. People who have asthma also suffer.

Nitrogen oxide can destroy large forests by damaging the leaves on trees and their roots that grow in soil. Damaged leaves need more food to stay alive. Without healthy soil, the roots can't get food to the leaves, and the tree dies.

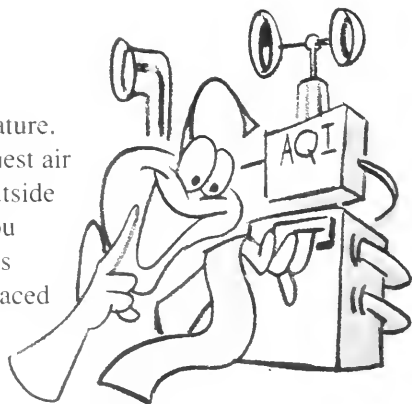
Ozone is a gas high in the atmosphere which protects you from too much sunlight. A group of chemicals called chlorofluorocarbons (CFC) destroys the ozone layer. Often, CFCs are used to help make the spray come out of hairspray and deodorant spray cans. They are also used in making plastic foam. However, many spray cans are now made without CFC. The label will tell you whether it contains CFCs.



Forest fires, factories, cars and even volcanoes can cause air pollution.



The amount of air pollution can be measured just like temperature. It's called an "Air Quality Index" or AQI for short. The cleanest air has an AQI of 0-15. But, if it reads 100, watch out! Being outside when the AQI is 100 is like standing behind a bus all day! You can't measure AQI with a thermometer. A complex machine is required instead. Environment Ontario has these machines placed in many locations across the province.



Air pollution not only hurts living things, but materials such as metal, stone, brick and paint also wear down and need to be repaired. Even our clothing is affected by pollution. For example, dirty air can make our clothes smelly!

Every time we use the car brakes, particles of rubber from the tires and asbestos from brake linings go into the air. That's air pollution, too!

Air conditioners and furnaces also contribute to pollution. Chemicals used to heat and cool air, go into the atmosphere and are very difficult to break down.



Recycling prevents 4,760 tonnes of acid-rain-causing sulphur dioxide and nitrogen from being released into the air each year in Ontario. Think of these tonnes of gases as particles of sand and imagine the Skydome filled to the top.



For a copy of **What You Can Do to Protect the Environment**, please contact Environment Ontario, 135 St. Clair Avenue West, Toronto, Ontario, M4V 1P5 (416) 323-4321

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